

Name: \_\_\_\_\_

**at1113exam: Expand, factor, and solve quadratics (v328)**

1. Expand the following expression into standard form.

$$(9x - 8)(5x - 4)$$

$$45x^2 - 36x - 40x + 32$$

$$45x^2 - 76x + 32$$

2. Expand the following expression into standard form.

$$(5x - 4)^2$$

$$25x^2 - 20x - 20x + 16$$

$$25x^2 - 40x + 16$$

3. Expand the following expression into standard form.

$$(7x - 2)(7x + 2)$$

$$49x^2 + 14x - 14x - 4$$

$$49x^2 - 4$$

4. Solve the equation.

$$(7x + 5)(2x + 9) = 0$$

$$x = \frac{-5}{7} \quad x = \frac{-9}{2}$$

5. Solve the equation.

$$7x^2 - 15x + 7 = 4x^2 - 2x + 3$$

$$3x^2 - 13x + 4 = 0$$

$$(3x - 1)(x - 4) = 0$$

$$x = \frac{1}{3} \quad x = 4$$

6. Factor the expression.

$$x^2 - 11x + 30$$

$$(x - 6)(x - 5)$$

7. Factor the expression.

$$25x^2 - 9$$

$$(5x - 3)(5x + 3)$$

8. Solve the equation with factoring by grouping.

$$10x^2 + 8x + 15x + 12 = 0$$

$$(2x + 3)(5x + 4) = 0$$

$$x = \frac{-3}{2} \quad x = \frac{-4}{5}$$